

# Work Order ID 60706

Tuesday, July 20, 2010 8:09:05 AM



Page 1

Item ID: D2573

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle, Aft Out 205

Start Date: 7/20/2010 Start Qty: 12.00



Cust Item ID:

Required Date: 7/26/2010 Req'd Qty: 12.00

Customer:

Reference:

Approvals:

Process Plan:

*[Signature]*

Date:

10-7-20

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2573	Rev E

100

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Program Batch No. 60706 Double check by *[Signature]* ☐ 1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets ☐ 3-Machine Step No 3 per Folio FA051 and insp

*MP*  
10/07/28

12

1

110

0.00



CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

*MP*  
10/07/28

12

1

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*MP*  
10/07/28  
*DJP*  
10/07/29

12

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: DZ573 PAR #: \_\_\_\_\_ Fault Category: machining NCR ☒ Yes No DQA: [Signature] Date: 1008-09  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: 10/08/10 Date: ckr

NCR: <u>60706</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
6/07/28	100	Top skid C Bolt was machine too low because outline was not well taken. Part is 2053" too thin at the saddle bushing location (part measures 0.314")	<u>[Signature]</u>	Scrap & replace <u>M 59621 x 1</u>	<u>MUS</u> <u>10/04/08</u>	<u>[Signature]</u> <u>10/07/29</u>	<u>[Signature]</u> <u>10/04/28</u>	<u>[Signature]</u> <u>10/04/28</u>
		R.C. Back to offset/LCA.						

NOTE: Date & initial all entries

# Work Order ID 60706

Tuesday, July 20, 2010 8:09:05 AM



Page 2

Item ID: D2573

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle, Aft Out 205

Start Date: 7/20/2010 Start Qty: 12.00



Cust Item ID:

Required Date: 7/26/2010 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

B.A 10/08/02

12

0

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

ML 10 08 03 (12)

150

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

M114841

START TIME: 8:40

FINISH TIME: 9:10

OVEN TEMPERATURE:

9:10

12 BK 10-8-5

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 60706**

Tuesday, July 20, 2010 8:09:05 AM

Page 3

Item ID: D2573

Accept

Revision ID:

Item Name: Saddle, Aft Out 205

Start Date: 7/20/2010 Start Qty: 12.00

Required Date: 7/26/2010 Req'd Qty: 12.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

ml 10 08 05 (12)

170

Identify as per dwg &amp; Stock Location: 434

0.00



Packaging

Memo

0.00

Packaging

10/8/06 SP (100)

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/08/09 JF  
MF  
10-8-06

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, July 20, 2010 8:09:12 AM

Page 1

Work Order ID: 60706

Parent Item: D2573

Parent Item Name: Saddle, Aft Out 205


Start Date: 7/20/2010

Required Date: 7/26/2010

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007  Saddle Billet		Manufactured	No			100	Each	20.0000	1	12			

Location

Loc Qty

Loc Code

MAT

14

59621

14

MAT42

6

46412

2

58677

4

89  
4

MJ=  
10/07/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	60704
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>	

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				Not Good	2	3	4		
A	0.438	0.443		.440	.440	.440	.440	mmf-02	vern
B	1.745	1.755		1.745	1.747	1.747	1.747	"	"
C	3.495	3.505		3.499	3.499	3.499	3.500	"	"
D	1.745	1.755		1.745	1.747	1.747	1.747	"	"
E	7.990	8.010		8.005	8.007	8.007	8.006	"	"
F	0.490	0.510		.497	.500	0.502	.496	"	"
G	0.257	0.262		.261	.261	0.260	0.260	"	"
H	0.375	0.380		.377	.377	0.377	0.377	"	"
I	0.490	0.510		.500	.500	0.501	0.502	"	"
J	1.174	1.184		1.179	1.178	1.179	1.179	"	"
K	0.558	0.578		.564	.570	0.568	0.570	"	"
L	1.174	1.184		1.179	1.178	1.179	1.179	"	"
M	1.365	1.375		1.368	1.369	1.370	1.370	"	"
N	2.495	2.505		2.502	2.502	2.500	2.500	"	"
O	4.119	4.129		4.122	4.122	4.124	4.124	"	"
P	0.115	0.135		.125	.123	0.123	0.125	118-120	micro
Q	0.115	0.135		.130	.130	0.130	0.130	mmf-02	vern
R	0.240	0.260		.252	.250	0.250	0.251	"	"
S	0.115	0.135		.125	.130	0.127	0.125	"	"
T	0.178	0.198		.188	.188	0.188	0.188	Rad gauge	
U	3.210	3.250		3.227	3.228	3.230	3.230	mmf-02	vern
V	0.230	0.250		.244	.240	0.240	0.238	"	"
W	0.115	0.135		.123	.125	0.123	0.126	118-120	micro
X	0.308	0.313		xxxx	.309	.309	.310	mmf-02	vern
Y	0.760	0.765		xxxx	.760	.760	.760	"	"
Z	0.352	0.372		.372	.364	.364	.358	"	"
AA	0.470	0.530		.500	.500	0.500	0.500	Rad gauge	
AB	0.615	0.635		.616	.615	.615	.625	mmf-02	vern
AC	0.053	0.073		.063	.063	0.063	0.063	Rad gauge	
AD	0.240	0.260		.250	.250	0.247	0.245	mmf-02	vern
AE	1.500	1.520		1.515	1.512	1.512	1.515	mmf-02	vern
AF	0.115	0.135		.130	.127	0.125	0.130	mmf-02	vern
AG	0.240	0.280		.245	.244	0.270	0.270	"	"
AH	0.240	0.260		.247	.245	0.244	0.244	"	"
AI	2.000	2.020		2.004	2.002	2.005	2.003	mmf-02	vern
AJ	0.023	0.043		.033	.033	.035	.033	mmf-02	vern
Accept/Reject				Reject	Good	✓	✓		

WTF?  
AD is not a radius

Measured by:	mmf
Date:	10/07/28

Audited by:	KA
Date:	10/08/02

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)					
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	
<b>Description:</b> Saddle, Aft Outboard	<b>Part Number:</b>	<b>D2573</b>
<b>Inspection Dwg:</b> D2573 Rev. E		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	5	6	7	8		
A	0.438	0.443		.440	.440	.440	.440	mmf-02	vern
B	1.745	1.755		1.747	1.747	1.747	1.747	"	"
C	3.495	3.505		3.496	3.497	3.498	3.498	"	"
D	1.745	1.755		1.747	1.747	1.747	1.747	"	"
E	7.990	8.010		8.008	8.008	8.007	8.008	"	"
F	0.490	0.510		.499	.500	.500	.500	"	"
G	0.257	0.262		0.260	0.260	.260	.260	"	"
H	0.375	0.380		0.377	0.377	.377	.377	"	"
I	0.490	0.510		.498	.499	.500	.500	"	"
J	1.174	1.184		1.179	1.179	1.179	1.179	"	"
K	0.558	0.578		.563	.563	.566	.566	"	"
L	1.174	1.184		1.179	1.179	1.179	1.179	"	vern mmf-02
M	1.365	1.375		1.376	1.370	1.378	1.379	"	"
N	2.495	2.505		2.500	2.500	2.500	2.499	"	"
O	4.119	4.129		4.124	4.124	4.123	4.123	"	"
P	0.115	0.135		0.123	0.123	.123	.123	"	mmf-02 118-120
Q	0.115	0.135		.133	.132	.135	.135	mmf-02	vern
R	0.240	0.260		0.250	0.250	.251	.251	"	"
S	0.115	0.135		.130	.130	.127	.127	118-120	micro
T	0.178	0.198		0.188	0.188	.188	.188		Rad gauge
U	3.210	3.250		3.228	3.228	3.229	3.229	mmf-02	vern
V	0.230	0.250		.240	.244	.240	.240	"	"
W	0.115	0.135		.123	.128	.128	.128	118-120	micro
X	0.308	0.313		.310	.309	.310	.310	mmf-02	vern
Y	0.760	0.765		.760	.760	.760	.760	"	"
Z	0.352	0.372		.367	.365	.365	.365	"	"
AA	0.470	0.530		0.500	0.500	.500	.500		Rad gauge
AB	0.615	0.635		.616	.616	.615	.615	mmf-02	vern
AC	0.053	0.073		0.063	0.063	.063	.063		Rad gauge
AD	0.240	0.260		.250	.250	.250	.250	mmf-02	vern
AE	1.500	1.520		1.515	1.513	1.513	1.513	mmf-02	Dial Ind
AF	0.115	0.135		.130	.135	.135	.135	mmf-02	vern
AG	0.240	0.280		0.270	0.270	.270	.270	"	vern mmf-02
AH	0.240	0.260		.244	.247	.245	.247	"	"
AI	2.000	2.020		2.005	2.004	2.004	2.004	mmf-02	Dial Ind
AJ	0.023	0.043		.033	.033	.033	.033	mmf-02	vern
Accept/Reject									

Measured by:	<i>[Signature]</i> / mmf
Date:	10/07/29 / 10/08/31

Audited by:	B. A
Date:	10/08/02

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>[Signature]</i>

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	
<b>Description: Saddle, Aft Outboard</b>	<b>Part Number:</b>	<b>D2573</b>
<b>Inspection Dwg: D2573 Rev. E</b>		<b>Page 1 of 1</b>

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

				Recorded Actual Dimensions					Date
Dim	Min	Max	Go/No Go Gauge	9	10	11	12	13	
A	0.438	0.443		.440	.440	.440	.440	.440	mmF-02 / vern
B	1.745	1.755		1.747	1.747	1.747	1.747	1.747	"
C	3.495	3.505		3.498	3.499	3.500	3.500	3.500	"
D	1.745	1.755		1.747	1.747	1.747	1.747	1.747	"
E	7.990	8.010		8.005	8.005	8.005	8.005	8.005	"
F	0.490	0.510		.503	.496	.501	.500	.500	"
G	0.257	0.262		.260	.260	.260	.260	.260	"
H	0.375	0.380		.377	.377	.377	.377	.377	"
I	0.490	0.510		.500	.500	.500	.500	.500	"
J	1.174	1.184		1.177	1.177	1.177	1.177	1.177	"
K	0.558	0.578		.559	.563	.565	.565	.565	"
L	1.174	1.184		1.176	1.177	1.177	1.177	1.177	"
M	1.365	1.375		1.369	1.370	1.370	1.370	1.369	"
N	2.495	2.505		2.500	2.500	2.500	2.500	2.500	"
O	4.119	4.129		4.124	4.124	4.124	4.124	4.124	"
P	0.115	0.135		.122	.126	.122	.122	.122	118-120/micro
Q	0.115	0.135		.135	.135	.135	.135	.135	mmF-02 / vern
R	0.240	0.260		.249	.250	.249	.250	.249	"
S	0.115	0.135		.127	.125	.128	.130	.130	118-120/micro
T	0.178	0.198		.188	.188	.188	.188	.188	Rad gauge
U	3.210	3.250		3.228	3.227	3.227	3.228	3.229	mmF-02 / vern
V	0.230	0.250		.240	.238	.240	.239	.240	"
W	0.115	0.135		.125	.126	.127	.123	.125	118-120/micro
X	0.308	0.313		.309	.310	.310	.309	.309	mmF-02 / vern
Y	0.760	0.765		.760	.760	.760	.760	.760	"
Z	0.352	0.372		.367	.365	.365	.365	.365	"
AA	0.470	0.530		.500	.500	.500	.500	.500	Rad gauge
AB	0.615	0.635		.616	.616	.616	.616	.616	mmF-02 / vern
AC	0.053	0.073		.063	.063	.063	.063	.063	Rad gauge
AD	0.240	0.260		.250	.250	.250	.250	.250	mmF-02 / vern
AE	1.500	1.520		1.515	1.513	1.513	1.510	1.512	Has #2 Dial Indiv
AF	0.115	0.135		.132	.133	.135	.135	.135	mmF-02 / vern
AG	0.240	0.280		.275	.260	.270	.268	.270	"
AH	0.240	0.260		.246	.245	.245	.250	.250	"
AI	2.000	2.020		2.005	2.004	2.003	2.001	2.002	Has #2 Dial Indiv
AJ	0.023	0.043		.033	.033	.033	.033	.033	mmF-02 / vern
Accept/Reject									

Measured by:	MMF
Date:	10/08/01

Audited by:	A.A
Date:	10/08/02

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

SUBJECT TO THE  
WITHOUT NOTICE  
WORK ORDER  
NO. 60706

05.12.06

MATERIAL: 7075-T7351 (QQ-A-250/12)  
(REF DART SPEC. D6102-001)  
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER  
DART QSI 005 4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- |   |  |
|---|--|
| 1 | ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010 |
| 2 | ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125       |
| 3 | CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)      |
| 4 | CHAMFER 0.063" x 45° ALL AROUND                                  |
| 5 | CHAMFER 0.033" x 45° (SEE DETAIL C)                              |

E	05.07.13	ADD CHAMFER ON RIDGE NOTE 5
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCRP. DEO 9123/9078/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE

DESIGN	DRAWN BY		DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
DS	PH		
CHECKED	APPROVED	DRAWING NO.	REV. E
		D2573	SHEET 1 OF
DATE	TITLE		SCALE
05.07.13	OUTER AFT SADDLE		2:1

COPYRIGHT © 2005 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries